UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
ALDERSON, WEST VIRGINIA

and

PENNSYLVANIA GAME COMMISSION
HARRISBURG, PENNSYLVANIA

NOTICE OF RELEASE OF THE CULTIVAR 'PANBOWL' RIVER ALDER

The Natural Resources Conservation Service (NRCS), United States Department of Agriculture (USDA), and the Pennsylvania Game Commission announce the release of the cultivar 'Panbowl' river alder [*Alnus serrulata* (Ait.) Willd.] for use in the eastern United States in USDA plant hardiness zones 5 through 8.

'Panbowl' river alder has been assigned the accession number PI-432411 by the USDA National Plant Germplasm System. It was also evaluated with the accession number KY-836 assigned by the Quicksand, Kentucky Plant Materials Center that was operated by NRCS.

Collection Site Information: Seed of 'Panbowl' river alder was collected on the north side of Panbowl Lake in Jackson, Breathitt County, Kentucky on January 29, 1968 by Wayne Everett, Edgar Gross, and Glenn Montgomery. The collection site is a south-facing shoreline on a complex of Nolin silt loam and Grigsby loam soils that are well-drained and flood occasionally. The latitude is 37°33'N; the longitude is 83°23'W; the elevation is 787 feet above mean sea level. The site is located in USDA major land resource area 125 (Cumberland Plateau and Mountains) and USDA plant hardiness zone 6b.

Description: River alder (*Alnus serrulata*) is also known as smooth, hazel, common, and brookside alder. It is a large thicket-forming shrub that occurs naturally along watercourses and around lakes and other bodies of water. The natural range of river alder is from Maine to Missouri to Texas to Florida in USDA plant hardiness zones 5 through 8. It has dense foliage and a dense branching habit. River alder attains a maximum height of eight to ten feet. Leaves are simple and alternate with pinnate veins and finely-toothed wavy margins. They are obovate with a length of two to four inches and a width of one to three inches. Male flowers are catkins one to two inches long; female flowers are woody cones a half inch long. Pollination occurs from early March in eastern Kentucky, a month before the leaves emerge in early April. River alder fixes nitrogen on nodules born on its roots in the same manner that legumes fix nitrogen.

Method of Selection: The accession PI-432411 was used for streambank stabilization plantings throughout the Northeast beginning in 1968 to evaluate the potential of the species. A collection of 45 accessions of river alder was made in 1977. The collection contained representatives from 13 states from Maine westward to Ohio and southward to Tennessee and North Carolina. An initial evaluation of 450 individual plants (10 plants of each accession) was made from 1979 through 1981 at the Quicksand, Kentucky Plant Materials Center. In 1982, 45 individual plants

representing 30 accessions were selected for further evaluation. Those 45 accessions were evaluated for the amount of root fibers and root nodules, fill and germination of seed, and vegetative propagation potential at the Quicksand, Kentucky Plant Materials Center. In 1984, eleven plants representing 9 accessions were selected for further evaluation. Accessions PI-421620 (Knox County, Kentucky) and T2860 (Laurel County, Kentucky) were selected for initial increase and field planting off the center throughout the range of adaptation. Accession PI-432411 was used as the standard of comparison because there was no released cultivar or commercially available ecotype of river alder on the market.

All three accessions performed well in the field plantings and there were no significant differences in their performance. During the initial increase of the three accessions to provide plants for the field plantings, PI-432411 was observed to germinate better and produce seedlings with greater root mass and more vigorous growth in the nursery beds than PI-421620 and T2860. The accession PI-432411 was selected for release based on its comparable performance to PI-421620 in field plantings and its anecdotal superior germination and seedling vigor in comparison to PI-421620 in nursery beds. In 2001, after closure of the Quicksand, Kentucky Plant Materials Center, a breeder's seed production block of PI-432411 was established at the Appalachian Plant Materials Center in Alderson, West Virginia.

Ecological Considerations and Evaluation: This release is from a species native to the United States for which there is no other released cultivar. This cultivar is from a species that is well documented as having beneficial qualities and no negative impacts on wild or domestic animals. The test plots supporting this release were located in close proximity to natural and introduced plant ecosystems. There was no evidence of negative impacts or invasion into those ecosystems. 'Panbowl' river alder was documented as "OK to release" when evaluated through the 'Worksheet for Conducting an Environmental Evaluation of NRCS Plant Releases".

Anticipated Use: The anticipated uses of 'Panbowl' river alder are streambank and shoreline stabilization, riparian area restoration, wetland restoration, and wetland wildlife habitat development. Its extensive root system is an excellent adaptation for erosion control on hydric soils. Its nitrogen-fixing ability provides nutrients to the other plants in the plant community. Alders species are important habitat components of woodcock habitat.

Area of Adaptation: 'Panbowl' river alder is adapted to the eastern United States in USDA plant hardiness zones 5 through 8 where precipitation is greater than 32 inches. It tolerates soils of any texture that are poorly-drained to well-drained. River alder tolerates pH of 5.0 to 7.0. It does not tolerate strongly acid, alkaline, saline, or droughty soils.

Availability of Plant Materials: A breeder's seed production block will be maintained at the Appalachian Plant Materials Center in Alderson, West Virginia. One year old seedlings will be available to commercial and government nurseries in the spring of 2008 for the purpose of establishing seed orchards. Seed harvest and cleaning and plant propagation procedures will be provided to those receiving plants.

Approvals for the Notice of Release of 'Panbowl' River Alder

Director
Ecological Science Division
United States Department of Agriculture
Natural Resources Conservation Service
Washington, DC

6/25/07
Date

State Conservationist
United States Department of Agriculture
Natural Resources Conservation Service
Morgantown, West Virginia

6/18/2007
Date

Executive Director
Pennsylvania Game Commission
Harrisburg, Pennsylvania

May 1, 2007
Date